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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,858	06/27/2003	Alan Michael Jaffee	7304	7146

7590 05/11/2010

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EXAMINER	
CHOI, PETER Y	
ART UNIT	PAPER NUMBER
1786	

MAIL DATE	DELIVERY MODE
05/11/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/607,858	JAFFEE, ALAN MICHAEL	
	Examiner	Art Unit	
	PETER Y. CHOI	1786	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-15,17-27 and 32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-15,17-27 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6, 8-15, 17-27, and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1-6, 8-15, 17-27, and 32, claims 1, 27 and 32 recite that the surface texture does not remain perceptible after the first face is painted. Applicant's specification as originally filed does not provide support for such a limitation.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6, 8-15, 17-27, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-6, 8-15, 17-27, and 32, claims 1, 27 and 32 recite that the first face of the board has a smoothness that is sufficient to permit the board to be directly paintable. It is unclear exactly what the scope of claim necessarily entails, as Applicant's specification does not

provide objective and/or quantitative characteristics which describe a "smoothness that is sufficient to permit the board to be directly paintable," such that the scope of the claim is necessarily definite. For example, Applicant does not provide characteristics and/or measurable differences between a "sufficient" smoothness and an "insufficient" smoothness and a relationship between smoothness and paintability, such that the scope of the claim is necessarily definite.

Additionally, regarding claims 1-6, 8-15, 17-27, and 32, claims 1, 27 and 32 recite that the surface texture does not remain perceptible after the first face is painted. It is unclear what exactly the scope of the claim necessarily entails, as the perceptibility of the surface texture is based on a variety of process factors which are not claimed. For example, the perceptibility of the surface texture is subjective. Additionally, the perceptibility of the surface texture after the first face is painted, is based on the particular painting process and paints used. For example, the painting of the first face may vary based on the types of paints being used and based on the specific painting conditions, including the manner in which the paint is applied, such as spray-coating and/or roll-coating, and the amount or thickness of the paint being applied. The type of paint and the process of coating necessarily give rise to different perceptibility results, since the perceptibility of the surface texture is dependent on the paint and the painting process. Additionally, as shown in USPN 4,572,862 to Ellis, a painted fiberglass layer comprises varying surface textures based on the type of paint, the amount of paint, and the painting process (*see for example* Ellis, Abstract, column 1 line 8 to column 5 line 4, column 16 line 23 to column 17 line 12, Examples 1-4, claims 1-18). Therefore, the limitation directed to the surface texture not remaining perceptible after the first face is painted is indefinite.

Response to Arguments

5. Applicant's arguments filed April 22, 2010, have been fully considered but they are not persuasive. Applicant argues that the specification, taken together, establish that prior art, fiber mat-faced gypsum boards lack such a surface that is sufficiently smooth to be painted and thereafter not exhibit a perceptible texture arising from the mat surface, and that novel gypsum boards do possess such a smooth surface. Examiner respectfully disagrees, as Applicant's specification does not disclose or establish that the surface texture of Applicant's invention does not remain perceptible after the first face is painted

Applicant argues that he is permitted to be his own lexicographer, and that in the marketplace, at least some persons consider it unaesthetic for finished gypsum board to exhibit perceptible texture. Examiner respectfully disagrees. It should be noted that although Applicant is permitted to be his own lexicographer, at issue is not the definiteness of the term "perceptible"; at issue is whether Applicant's specification discloses the claimed structure. As Applicant's specification as originally filed does not provide support for the limitation requiring the surface texture to not remain perceptible after the first face is painted, the limitation is new matter.

Applicant argues that a skilled person would recognize that the requisite smoothness and paintability are discernible by observing whether or not the surface is smooth enough that the underlying fibrous texture of the mat facer is not readily perceived after the gypsum board employing that facer is painted so as to render the surface aesthetically objectionable. Examiner respectfully disagrees. First, as set forth in the Non-Final Rejection of January 22, 2010, it is still unclear what smoothness is within the scope of a "requisite smoothness" as Applicant does

not provide any objective and/or quantitative characteristics associated with such a smoothness. Second, it is unclear how a surface is "aesthetically objectionable" when painted since aesthetics are subjective. Additionally, although Applicant recites page 4 of Applicant's specification as indicating the deficiency of the prior art fiber-faced construction boards, Applicant does not provide definite characteristics of the claimed invention such that the scope of the claimed limitations are definite. For example, it is unclear what "smoothness" is "sufficient" and/or within the scope of the claim as the limitations are subjective and/or qualitative. Similarly, it is unclear what the scope of a surface texture which is perceptible after the first face is painted necessarily entails, as the limitation is dependent on further characteristics and processes of painting which are not claimed and which directly relate to the perceptibility of the surface texture.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-6, 8-15, 17-19, 21-24, 26, 27, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,772,846 to Jaffee.

Jaffee is directed to a nonwoven glass fiber mat for facing gypsum board (Title).

As to claims 1-6, 8-15, 17-19, 21-24, and 26, Jaffee teaches a nonwoven fibrous mat for use as a facer on a gypsum insulating board (see entire document including column 1 lines 6-67,

column 2 line 2 to column 4 line 56, Examples 1-4). Jaffee teaches that the mat comprises a major portion of textile glass fibers and may comprise a minor portion of other fibers (column 2 lines 34-61). Jaffee teaches that the nonwoven mat is bound together with a latex (column 2 line 2 to column 4 line 56). The Examiner equates the latex to Applicant's "resinous binder". Jaffee teaches that the glass fibers can have a length between 0.25 and 1 inch which is equal to 6.35-25.4 mm (column 3 lines 34-61). Examiner equates this short length to Applicant's "chopped glass fibers". Jaffee teaches that the glass fibers have an average diameter from about 9μm to 20μm (column 3 lines 34-61). Jaffee states that it is known to face a gypsum wall board with a fiber glass nonwoven mat as shown in USPN 4,647,496, the disclosure of which is hereby incorporated by reference. It should be noted that the phrase "incorporated by reference" means that the information incorporated is as much a part of patent as if the text was repeated in the patent, and should be treated as part of the text of the patent. Therefore, although not explicitly shown in Jaffee, the incorporated USPN 4,647,496 shows in Figure 8 that the nonwoven fibrous mat facing materials are applied to both sides of the gypsum board and it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the gypsum board of the prior art with the construction as shown in USPN 4,647,496, since Jaffee teaches the suitability of the gypsum board with such a construction. It should be noted that both of the facing materials have the same composition. USPN 4,647,496 further teaches that the gypsum material is "set" (Abstract). Examiner equates the facing material applied to the first and second sides of the gypsum board as "first facer" and "second facer." It should be noted that the first face inherently comprises a surface texture, as the first face comprises a fibrous mat and fibrous mats necessarily comprise a surface having a surface texture.

In regards to the transitional phrase of "consisting essentially of", the phrase limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The burden is upon Applicant to show that the additional components do affect the basic and novel characteristics of the invention. For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See MPEP 2111.03. Applicant may wish to amend the claim to use the transitional phrase "consisting of" which excludes any element, step, or ingredient not specified in the claim. For the purposes of examination at this time, Examiner will interpret "consisting essentially of" as "comprising".

Regarding claims 1-6, 8-15, 17-19, 21-24, and 26, Jaffee does not appear to teach that the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging specifically from 6-12 mm as required by claims 1 and 22, that the glass fibers having a diameter of between 9.5-12.5μm comprise at least 90% by weight of the glass fibers as required by claim 4, at least 95% as required by claim 5, at least 97% by weight as required by claim 6, that the chopped glass fibers have a fiber length ranging from about 6-18mm as required by claim 8, and that the fibrous mat has a basis weight of about 1.25 ± 0.2 pounds per 100 square feet as required by claim 19. However, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the fiber diameter, length, proportion of glass fibers and basis weight since it has been held that where general conditions of a claim are disclosed in the prior

art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the fiber diameter, length, proportion of glass fibers and basis weight in order to create a composite with the desired properties such as flexibility and strength while minimizing skin irritation during installation.

Additionally, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of Jaffee, wherein the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging from 6-12 mm, as Jaffee teaches that the chopped glass fibers can have average diameters from about 9μm to about 20μm and average lengths between 0.25 inches and 1 inch, and such a teaching would have indicated to one of ordinary skill in the art that all of the chopped glass fibers can have an average diameter and an average length within the claimed ranges.

Regarding claims 1-6, 8-15, 17-19, 21-24, and 26, Jaffee does not specifically teach that the gypsum board is paintable, that the first facer provides the first face of the gypsum board with a smoothness that is sufficient to permit the gypsum board to be directly paintable, and that the surface texture does not remain perceptible after the first face is painted. For purposes of examination, "paintable" is interpreted as "capable of being painted." Although the prior art does not teach the claimed characteristics, the claimed characteristics are deemed to be inherent and/or appear to naturally flow from the teachings of the prior art, as the prior art teaches a substantially similar structure and composition (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers

have an average diameter and length within the claimed range) as the claimed invention. Products of identical structure cannot have mutually exclusive properties. The burden is on the Applicant to prove otherwise.

Additionally and/or alternatively, the limitation directed to the surface texture not remaining perceptible after the first face is painted appears to recite an intended use of the first face. For example, the limitation is interpreted as *when* the first face is painted, the surface texture will not remain perceptible. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since the prior art teaches a substantially similar structure and composition as the claimed invention (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range), the prior art appears capable of the claimed intended use. Additionally and/or alternatively, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of the prior art, wherein the first face is not perceptible after the face is painted, motivated by the desire of finishing a gypsum board with paint and a painting process such that the face is smooth and comprises a uniform flat surface, based on the desired feel and aesthetics of the gypsum board.

Regarding claims 1-6, 8-15, 17-19, 21-24, and 26, although Jaffee does not explicitly teach the claimed permeability of at least 300 cfm/ft^2 and the claimed flame resistance to pass the test of ASTM Method E84, Class 1, it is reasonable to presume that said properties are inherent

and/or naturally flow from the teachings of the prior art. Support for said presumption is found in the use of like materials (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range) which would result in the claimed properties. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property would obviously have been present once the Jaffee product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Regarding claims 2 and 3, Jaffee teaches that the glass fibers can comprise any type of glass fibers, but E type, C type, T type and sodium borosilicate are preferred (column 3 lines 34-61).

Regarding claims 4-6, Jaffee teaches that the glass fibers have an average diameter from about 9μm to 20μm (column 3 lines 34-46). Jaffee teaches that the mat has a major portion of glass fibers and a may comprise a minor portion of glass or polymer fibers (Abstract). Jaffee further teaches that a minor portion of the glass fibers can have a diameter of 0.4-2μm (column 3 lines 34-61).

Regarding claim 8, Jaffee teaches that the glass fibers can all have the same length (column 3 lines 34-61).

Regarding claim 9, Jaffee teaches that the latex, or "resinous binder", comprises a crosslinkable vinyl chloride acrylate copolymer latex (column 3 line 61 to column 4 line 14). Jaffee states that an aqueous stearylated melamine emulsion can be added to the latex to act as an external crosslinker (column 4 lines 14-30). Therefore, it is the position of Examiner that the final product latex would be crosslinked as required by Applicant.

Regarding claim 10, Jaffee teaches that the latex, or resinous binder, comprises a crosslinkable vinyl chloride acrylate copolymer latex (column 3 line 61 to column 4 line 14) which is subsequently crosslinked (column 2 line 2 to column 4 line 56). It is the position of Examiner that the crosslinked latex is equivalent to Applicant's "modified acrylic latex binder" because an acrylate is an acrylic.

Regarding claims 11-13, Jaffee teaches that the stearylated melamine emulsion, which acts as a crosslinker, is present in the amount of up to 10 weight percent (column 3 line 62 to column 4 line 37).

Regarding claim 13, Jaffee teaches that stearylated melamine emulsion is mixed with copolymer latex and formaldehyde to create a binder for the mats (column 3 line 62 to column 4 line 37, Examples 1-4).

Regarding claim 14, Jaffee teaches that the crosslinkable vinyl chloride acrylate copolymer latex has a glass transition temperature of up to 113 degrees F (column 3 line 62 to column 4 line 37). It should be noted that Applicant requires a glass transition temperature range of about 15 to 45 degrees Celsius (15-133 degrees F).

Regarding claim 15, Jaffee teaches that the stearylated melamine emulsion provides water repellency to the mat (column 4 lines 15-37).

Regarding claims 17-19, Jaffee teaches that the facer material or "fibrous mat" can weigh about 1.8 to 2.2 pounds per 100 square feet (column 3 lines 6-17).

Regarding claim 19, Jaffee teaches that the facer material or fibrous mat can preferably weigh about 1.8 to 2.2 pounds per 100 square feet (column 3 lines 6-17). Jaffee indicates that the mat can be any weight (column 3 lines 14-17).

Regarding claim 21, Jaffee teaches that the second facer comprises a fibrous mat (column 1 lines 6-67, column 2 line 2 to column 4 line 56, Examples 1-4; USPN 4,647,496, Figure 8).

Regarding claim 22, the second facer is a fibrous mat comprising a non-woven, glass fiber web bonded together with a resinous binder, and the glass fibers consist essentially of chopped glass fibers having an average fiber diameter ranging from about 9.5 to 12.5 μm and an average fiber length ranging from about 6 to 12 mm (column 1 lines 6-67, column 2 line 2 to column 4 line 56, Examples 1-4; USPN 4,647,496, Figure 8).

Regarding claims 23 and 24, it should be noted that Jaffee states that it is known to face a gypsum wall board with a fiber glass nonwoven mat as shown in USPN 4,647,496, the disclosure of which was incorporated by reference. It should be noted that the phrase "incorporated by reference" means that the information incorporated is as much a part of patent as if the text was repeated in the patent, and should be treated as part of the text of the patent. Therefore, although not explicitly taught in Jaffee, the incorporated USPN 4,647,496 teaches that the gypsum core has water-resistant properties imparted by the incorporation of one or more additives (column 9 lines 49-60). USPN 4,647,496 also teaches that the gypsum board can further comprise a paper fiber which acts as a viscosity-control agent (column 13 lines 15-20).

Regarding claim 27, Jaffee teaches a gypsum board having a first face and a second face and a non-woven fibrous mat affixed to at least one of the faces, the improvement wherein the mat comprises a glass fiber web bonded together with a resinous binder and the chopped glass fibers consist essentially of glass fibers having an average fiber diameter ranging from about 9.5 to 12.5μm and an average fiber length ranging from about 6 to 12 mm (see entire document including column 1 lines 6-67, column 2 line 2 to column 4 line 56, Examples 1-4).

Additionally, Jaffee states that it is known to face a gypsum wall board with a fiber glass nonwoven mat as shown in USPN 4,647,496, the disclosure of which is hereby incorporated by reference. Therefore, although not explicitly shown in Jaffee, the incorporated USPN 4,647,496 shows in Figure 8 that the nonwoven fibrous mat facing materials are applied to both sides of the gypsum board and it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the gypsum board of the prior art with the construction as shown in USPN 4,647,496, since Jaffee teaches the suitability of the gypsum board with such a construction. It should be noted that both of the facing materials have the same composition. USPN 4,647,496 further teaches that the gypsum material is "set" (Abstract). Examiner equates the facing material applied to the first and second sides of the gypsum board as "first facer" and "second facer". It should be noted that the mat inherently comprises a surface texture, as the mat comprises a glass fiber web and glass fiber webs necessarily comprise a surface having a surface texture.

Regarding claim 27, Jaffee does not appear to teach that the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging specifically from 6-12 mm. However, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the fiber diameter and length since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the fiber diameter, length, proportion of glass fibers and

basis weight in order to create a composite with the desired properties such as flexibility and strength while minimizing skin irritation during installation.

Additionally, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of Jaffee, wherein the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging from 6-12 mm, as Jaffee teaches that the chopped glass fibers can have average diameters from about 9μm to about 20μm and average lengths between 0.25 inches and 1 inch, and such a teaching would have indicated to one of ordinary skill in the art that all of the chopped glass fibers can have an average diameter and an average length within the claimed ranges.

Regarding claim 27, Jaffee does not specifically teach that the mat provides the first face of the gypsum board with a smoothness that is sufficient to permit the gypsum board to be directly paintable, such that the surface texture does not remain perceptible after the first face is painted. For purposes of examination, "paintable" is interpreted as "capable of being painted." Although the prior art does not teach the claimed characteristics, the claimed characteristics are deemed to be inherent and/or appear to naturally flow from the teachings of the prior art, as the prior art teaches a substantially similar structure and composition (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range) as the claimed invention. Products of identical structure cannot have mutually exclusive properties. The burden is on the Applicant to prove otherwise.

Additionally and/or alternatively, the limitation directed to the surface texture not remaining perceptible after the first face is painted appears to recite an intended use of the first face. For example, the limitation is interpreted as *when* the first face is painted, the surface texture will not remain perceptible. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since the prior art teaches a substantially similar structure and composition as the claimed invention (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range), the prior art appears capable of the claimed intended use. Additionally and/or alternatively, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of the prior art, wherein the first face is not perceptible after the face is painted, motivated by the desire of finishing a gypsum board with paint and a painting process such that the face is smooth and comprises a uniform flat surface, based on the desired feel and aesthetics of the gypsum board.

Regarding claim 27, although Jaffee does not explicitly teach the claimed permeability of at least 300 cfm/ft^2, it is reasonable to presume that said properties are inherent and/or naturally flow from the teachings of the prior art. Support for said presumption is found in the use of like materials (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range) which would result in the claimed properties. The burden is upon the

Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property would obviously have been present once the Jaffee product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Regarding claim 32, Jaffee teaches a hydraulic set board, comprising a hydraulic set material layer having a first and a second face, and first and second facers affixed to the first and second faces, at least of the first facer being a fibrous mat comprising a non-woven, glass fiber web bonded together with a resinous binder, the glass fibers consisting essentially of chopped glass fibers having an average fiber diameter ranging from about 9.5 to 12.5μm and an average fiber length ranging from about 6 to 12mm (see entire document including column 1 lines 6-67, column 2 line 2 to column 4 line 56, Examples 1-4). Additionally, Jaffee states that it is known to face a gypsum wall board with a fiber glass nonwoven mat as shown in USPN 4,647,496, the disclosure of which is hereby incorporated by reference. It should be noted that the phrase "incorporated by reference" means that the information incorporated is as much a part of patent as if the text was repeated in the patent, and should be treated as part of the text of the patent. Therefore, although not explicitly shown in Jaffee, the incorporated USPN 4,647,496 shows in Figure 8 that the nonwoven fibrous mat facing materials are applied to both sides of the gypsum board and it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the gypsum board of the prior art with the construction as shown in USPN 4,647,496, since Jaffee teaches the suitability of the gypsum board with such a construction. It should be noted that both of the facing materials have the same composition. USPN 4,647,496 further teaches that the gypsum material is "set" (Abstract) and the set material is within the scope of the claimed "hydraulic." Examiner equates the facing material applied to the first and

second sides of the gypsum board as "first facer" and "second facer". It should be noted that the first facer inherently comprises a surface texture, as the first face comprises a fibrous mat and fibrous mats necessarily comprise a surface having a surface texture.

Regarding claim 32, Jaffee does not appear to teach that the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging specifically from 6-12 mm. However, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the fiber diameter and length since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the fiber diameter, length, proportion of glass fibers and basis weight in order to create a composite with the desired properties such as flexibility and strength while minimizing skin irritation during installation.

Additionally, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of Jaffee, wherein the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging from 6-12 mm, as Jaffee teaches that the chopped glass fibers can have average diameters from about 9μm to about 20μm and average lengths between 0.25 inches and 1 inch, and such a teaching would have indicated to one of ordinary skill in the art that all of the chopped glass fibers can have an average diameter and an average length within the claimed ranges.

Regarding claim 32, Jaffee does not specifically teach that the first facer provides the first face of the hydraulic set board with a smoothness that is sufficient to permit the hydraulic set board to be directly paintable, such that the surface texture does not remain perceptible after the first face is painted. For purposes of examination, "paintable" is interpreted as "capable of being painted." Although the prior art does not teach the claimed characteristics, the claimed characteristics are deemed to be inherent and/or appear to naturally flow from the teachings of the prior art, as the prior art teaches a substantially similar structure and composition (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range) as the claimed invention. Products of identical structure cannot have mutually exclusive properties. The burden is on the Applicant to prove otherwise.

Additionally and/or alternatively, the limitation directed to the surface texture not remaining perceptible after the first face is painted appears to recite an intended use of the first face. For example, the limitation is interpreted as *when* the first face is painted, the surface texture will not remain perceptible. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since the prior art teaches a substantially similar structure and composition as the claimed invention (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range), the prior art appears capable of the claimed intended use. Additionally and/or alternatively, it would have

been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of the prior art, wherein the first face is not perceptible after the face is painted, motivated by the desire of finishing a gypsum board with paint and a painting process such that the face is smooth and comprises a uniform flat surface, based on the desired feel and aesthetics of the gypsum board.

Regarding claim 32, although Jaffee does not explicitly teach the claimed permeability of at least 300 cfm/ft^2, it is reasonable to presume that said properties are inherent and/or naturally flow from the teachings of the prior art. Support for said presumption is found in the use of like materials (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range) which would result in the claimed properties. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property would obviously have been present once the Jaffee product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaffee, as applied to claims 1-6, 8-15, 17-19, 21-24, 26, 27, and 32 above, in view of USPN 6,187,697 to Jaffee (herein referred to as "'697").

Regarding claim 13, the prior art appears to teach that the resinous binder comprises melamine formaldehyde. Additionally, Jaffee teaches that the binder may comprise crosslinked vinyl chloride acrylate copolymer, a cross-linker, and urea formaldehyde (*see for example* Jaffee, Examples 1-4). Additionally, '697 teaches a substantially similar facer suitable for use with

gypsum board, the facer comprising a non-woven glass fiber web bonded with a resinous binder, the glass fibers having an exemplary diameter of 10μm and having an exemplary length of about 0.25 inches, wherein the binder comprises urea formaldehyde or melamine formaldehyde ('697, column 1 line 4 to column 3 line 5, column 3 lines 17-35, column 5 lines 26-60, column 6 line 65 to column 7 line 12). It would have been obvious to one of ordinary skill in the gypsum board facer art at the time the invention was made to form the facers of the prior art, wherein the binder comprises melamine formaldehyde, as taught by '697, motivated by the desire of forming a conventional gypsum board with facers comprising binders known in the art to be suitable and functionally equivalent in the gypsum board facer art, and the simple substitution of one known binder for another would yield predictable results.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaffee, as applied to claims 1-6, 8-15, 17-19, 21-24, 26, 27, and 32 above, in view of USPN 6,365,533 to Horner.

Jaffee teaches the claimed invention above but fails to disclose that the second facer can comprise kraft paper.

Horner is directed to a foamed facer suitable for use in the construction industry comprising a dry preformed glass fiber mat containing a binder (Abstract). Horner teaches that the first and second facers can be of the same or of a different composition than that of this invention. More specifically, one of the facer sheets maybe be selected from those conventionally employed such as kraft paper and the other facer sheet is one of the current invention which enhances the composite (column 6 lines 1-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a kraft paper as one of the facer materials as suggested by Horner in the gypsum board composite of Jaffee motivated by the desire to save manufacturing costs by employing a conventional facer on one side and the improved and enhanced facer on the other side.

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaffee, as applied to claims 1-6, 8-15, 17-19, 21-24, 26, 27, and 32 above, in view of USPN 7,056,582 to Carbo.

Jaffee teaches the claimed invention but fails to teach that the core may further comprise a biocide. Carbo is directed to a mold resistant acoustical panel (Title). Carbo teaches, during manufacture of the panels, the zinc pyrithione is added to the slurry of water, fillers and binders that is used to form the panel. It is particularly surprising that the pyrithione salt added to the core protects both the panel core and the coating material. The panels of the present invention having zinc pyrithione incorporated only in the core exhibit improved mold resistance to an extent that would not be expected by incorporation of the zinc pyrithione into the core only. Regardless of the actual mechanism, biocides that display this behavior are useful in the acoustical panels of this invention (column 5 lines 25-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a biocide into the core of Jaffee as suggested by Carbo motivated by the desire to create a mold resistant panel.

Response to Arguments

11. Applicant's arguments filed April 22, 2010, have been fully considered but they are not persuasive. Applicant argues that Jaffee fails even to recognize the possibility of a faced gypsum board that has a surface that is smooth enough to be directly paintable. Examiner respectfully disagrees. The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. MPEP 2123. Additionally, the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference.

Jaffee teaches a nonwoven glass fiber mat for facing gypsum board (Title) comprising E glass fibers having average diameter from about 9μm to about 20μm, preferably from about 10μm to about 16μm (column 3 lines 33-46). The fiber lengths may be 0.25 inches to 1.0 inch, which is equivalent to 6.35 mm to 25.4 mm. Therefore, Jaffee renders obvious the claimed facer. Additionally, as set forth above, the prior art does not appear to specifically teach that the board is paintable and that the first facer provides the first face of the gypsum board with a smoothness that is sufficient to permit the gypsum board to be directly paintable. Although the prior art does not teach the claimed characteristics, the claimed characteristics are deemed to be inherent and/or appear to naturally flow from the teachings of the prior art, as the prior art

teaches a substantially similar structure and composition (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range) as the claimed invention. Products of identical structure cannot have mutually exclusive properties. The burden is on the Applicant to prove otherwise.

Additionally, it is well-settled that unsupported arguments are not a substitute for objective evidence. *In re Pearson*, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974). Applicant has not shown that the facer of the prior art is necessarily outside the scope of the claimed invention.

Applicant argues that the combination of the particular ranges of average fiber diameter between 9.5 and 12.5μm and average fiber length between 6 and 12 mm gives rise to surprising and unexpected results, as evidenced in comparative examples set forth in the original specification and in two Declarations. Examiner respectfully disagrees. Applicant's arguments are moot as they were previously addressed by the Board of Patent Appeals & Interferences (herein "BPAI") in the BPAI Decision of January 29, 2009. The BPAI's arguments and conclusions are set forth below.

> "First, Jaffee has not established that the test using camera images, software and visual observation is an art recognized test or is reliable. Also, only one test was carried out for each fiber diameter and length, and Jaffee has not established that the test is repeatable. Moreover, the cause-and- effect relationship between standard error and surface smoothness is lost in a multiple unfixed variables. *See In re Heyna*, 360 F.2d 222,228 (CCPA 1966); *In re Dunn*, 349 F.2d 433,439 (CCPA 1965). Jaffee changed not only the average fiber diameter and length, but also the average intensity (Decl. I: ¶ 14). If, for samples 1 and 4, the same standard deviation were obtained at the 1837 average intensity used for the Appellant's inventive sample 2, the standard errors would be, respectively, 7.9% and 7.8%, which are very close to the 7.6% for the Appellant's inventive sample 2.

> "Second, it is not enough for the Appellant to show that the results for the Appellant's invention and the comparative examples differ. The difference must be shown to be an unexpected difference. *See In re Freeman*, 474 F.2d 1318, 1324 (CCPA 1973); *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972). Jaffee states that one of ordinary skill in the art would have expected that a smoother surface would be obtained using a smaller fiber diameter (Decl. I, ¶ 17), but Jaffee has not established that one of ordinary skill in the art would not have expected a larger length to diameter ratio than that in sample 3 to produce a smoother surface.
>
> "Third, the evidence is not commensurate in scope with the claims. *See In re Grasselli*, 713 F.2d 731,743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980). The Appellant's claim 1 encompasses average fiber diameters from about 9.5 to 12.5 microns, and average fiber lengths from about 6 to 12 mm, yet Jaffee provides only one sample at an average fiber diameter of 11 microns and an average fiber length of 12 microns. We find in the evidence of record no reasonable basis for concluding that mats made of fibers having the other average diameters and lengths encompassed by the Appellant's claims would behave as a class in the same manner as the particular sample tested. *See In re Lindner*, 457 F.2d 506, 508 (CCPA 1972); *In re Susi*, 440 F.2d 442, 445-46 (CCPA 1971).
>
> "The Appellant has not shown reversible error in the Examiner's determination that the Appellant's Declarations fail to overcome the prima facie case of obviousness"
>
> (*See* BPAI Decision of January 29, 2009, pages 7-9).

Therefore, Applicant's arguments are not persuasive and moot.

Additionally, the BPAI Decision of January 29, 2009, previously addressed the obviousness of the claimed fiber diameter range. The BPAI's arguments and conclusions are set forth below.

> "Claim 4 requires that at least about 90 wt% of chopped glass fibers have a diameter ranging between about 9.5 and 12.5 microns.
>
> "The Appellant argues that there is no disclosure in Jaffee that calls for a narrow range of fiber diameters (Br. 47-48).
>
> "Jaffee's disclosure that the glass fibers are chopped glass fibers and typically have average diameters from about 9 microns to about 20 microns (col. 3, 11.38-39; col. 4, 1.67) would have indicated to one of ordinary skill in the art that all of

> the chopped glass fibers can have an average diameter within that range which includes the Appellant's range of between about 9.5 and 12.5 microns.
>
> "The Appellant has not shown reversible error in the Examiner's determination that Jaffee would have rendered the invention claimed in the Appellant's claims 4, 26, 29, and 31 prima facie obvious to one of ordinary skill in the art"
>
> (*See* BPAI Decision of January 29, 2009, pages 3-9).

Therefore, Applicant's arguments are not persuasive as the prior art renders obvious the claimed invention.

Applicant argues that nothing in Jaffee pertains in any way to smoothness or instructs the artisan how to "dial up" smoothness. Examiner respectfully disagrees. It should be noted that Applicant's recitation of smoothness and paintability are indefinite for the reasons set forth above. Additionally, as set forth in Applicant's arguments of December 21, 2009, page 9,

> "Surprisingly and unexpectedly, gypsum board faced in accordance with the invention with the present nonwoven glass fiber mat, wherein the fibers consist essentially of chopped glass fibers having an average fiber diameter ranging from about 9.5 to 12.5 gm and an average fiber length ranging from about 6 to 12 mm, has a smoother surface than boards made with mats employing either larger or smaller diameter fibers. The smoothness of the surface permits the board to be painted directly, without the need for a skim coat of plaster, that heretofore has been required in order for the underlying surface texture of the mat not to be perceived after painting."

Based on Applicant's arguments, the claimed smoothness which Applicant argues is directly attributable to the combination of the chopped glass fibers having the claimed average fiber diameter and average fiber length. Applicant does not attribute or claim any other limitation which influences the claimed smoothness. Therefore, since the prior art renders obvious the claimed facer, including the claimed average fiber diameter and average fiber length, it is reasonable for one of ordinary skill in the art to expect that the facer of the prior art necessarily and/or inherently comprises the claimed smoothness, absent evidence to the contrary.

Applicant argues that Jaffee fails to disclose or suggest the advantageously high permeability of Applicant's mat. Examiner respectfully disagrees. Applicant's arguments are moot as they were previously addressed by the BPAI Decision of January 29, 2009. The BPAI's arguments and conclusions are set forth below.

> "...The mat in the Appellant's Comparative Example 1 having an average fiber diameter of 13 microns has a Frazier permeability of 625 cfm/ft^2 (Spec. 14-15, Tables I, II). The mats in the Appellant's Examples 2-4 having an average fiber diameter of 11 ± 1.5 microns have a Frazier permeability of, respectively, 800, 603 and 527 cfm/ft^2 (Spec. 15:23- 24; 16, Table III). Thus, it appears that Jaffee's mats having fibers with average diameters in the range from about 9 microns to about 20 microns (col. 3, 11. 38-39), which are comparable to the average fiber diameters in the Appellant's examples, have high permeabilities like those of the Appellant's examples rather than the lower permeability of Gill's mat containing much thinner fibers. Moreover, the mats in Examples 3-8 of US 6,187,697 B1 to Jaffee et al., relied upon by the Examiner in rebuttal to the Appellant's argument (Ans. 14-15), have a 10 micron diameter, a length of 0.5 inch, and an air permeability of 320-580 cfm/ft^2. The fibers in those mats are within Jaffee '846's range of about 9 to about 20 microns average diameter and a quarter inch to one inch length (col. 3, 11. 38-39, 58-61), and have air permeabilities within the range in the Appellant' s claim 31 rather than in Gill's lower range."
>
> (*See* BPAI Decision of January 29, 2009, pages 4 and 5).

Therefore, Applicant's arguments are not persuasive.

Applicant argues that Examiner has not articulated any basis that would establish that Applicant's choice of fiber dimensions would improve flexibility and strength and minimize skin irritation. Examiner respectfully disagrees. As set forth above, the prior art renders obvious the claimed facer, including the claimed fiber diameters and fiber lengths based on the totality of the teachings of the prior art. Additionally, the prior art teaches the suitability of such fiber diameters and fiber lengths, and that the nonwoven mat, when used as a facer, has improved handling characteristics, improved flame resistance, improved flexibility and produces less, or less irritating, dust when the faced gypsum board is cut than the mats used heretofore for facing

insulating gypsum board (Jaffee, column 2 lines 2-15). Therefore, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the fiber diameter, length, proportion of glass fibers and basis weight since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In the present invention, one would have been motivated to optimize the fiber diameter, length, proportion of glass fibers and basis weight in order to create a composite with the desired properties such as flexibility and strength while minimizing skin irritation during installation.

Additionally, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of Jaffee, wherein the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging from 6-12 mm, as Jaffee teaches that the chopped glass fibers can have average diameters from about 9μm to about 20μm and average lengths between 0.25 inches and 1 inch, and such a teaching would have indicated to one of ordinary skill in the art that all of the chopped glass fibers can have an average diameter and an average length within the claimed ranges.

Applicant traverses Examiner's reliance on the BPAI's *sua sponte* position that Jaffee has not established that testing using camera images, software and visual observation is an art-recognized test or is reliable, and Applicant argues that the BPAI decision evidences a misreading of the May 3 Declaration with respect to the meaning of the average intensity and standard error. Examiner respectfully disagrees. Applicant's arguments are moot as the BPAI Decision of January 29, 2009 has already addressed the substance and merits of the Declarations.

Applicant argues that the recitation of the smooth surface after painting is a structural property. Examiner respectfully disagrees. The limitation directed to the surface texture not remaining perceptible after the first face is painted appears to recite an intended use of the first face, as the limitation is interpreted as *when* the first face is painted, the surface texture will not remain perceptible. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since the prior art teaches a substantially similar structure and composition as the claimed invention (a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range), the prior art appears capable of the claimed intended use. Additionally and/or alternatively, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of the prior art, wherein the first face is not perceptible after the face is painted, motivated by the desire of finishing a gypsum board with paint and a painting process such that the face is smooth and comprises a uniform flat surface, based on the desired feel and aesthetics of the gypsum board.

Applicant argues that '697 does not cure the deficiencies of Jaffee. Examiner respectfully disagrees. As set forth above Jaffee renders obvious the subject matter of claim 1.

Applicant argues that a skilled person would not have been motivated to look to Horner in contemplating gypsum board construction. Examiner respectfully disagrees. It is well-settled that unsupported arguments are not a substitute for objective evidence. *In re Pearson*, 494 F.2d

1399, 1405, 181 USPQ 641, 646 (CCPA 1974). Applicant does not provide evidence that a skilled person would not have been motivated to look to Horner in contemplating gypsum board construction.

Horner is directed to a foamed facer suitable for use in the construction industry comprising a dry preformed glass fiber mat containing a binder (Abstract). Horner teaches that the first and second facers can be of the same or of a different composition than that of this invention. More specifically, one of the facer sheets maybe be selected from those conventionally employed such as kraft paper and the other facer sheet is one of the current invention which enhances the composite (Horner, column 6 lines 1-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a kraft paper as one of the facer materials as suggested by Horner in the gypsum board composite of Jaffee motivated by the desire to save manufacturing costs by employing a conventional facer on one side and the improved and enhanced facer on the other side.

Applicant argues that Carbo fails to recognize the possibility of a gypsum or like construction board faced with the claimed facers, having the claimed smoothness. In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. As set forth above, Carbo is not relied on to teach the claimed gypsum board. Therefore, Applicant's arguments are not commensurate in scope with the current rejection.

As set forth above, although the prior art does not teach the claimed characteristics, the claimed characteristics are deemed to be inherent and/or appear to naturally flow from the teachings of the prior art, as the prior art teaches a substantially similar structure and composition

(a gypsum layer and two face layers wherein the first facer comprising a nonwoven glass fiber web and resinous binder, wherein the glass fibers have an average diameter and length within the claimed range) as the claimed invention. Products of identical structure cannot have mutually exclusive properties. The burden is on the Applicant to prove otherwise. Additionally, as set forth above, it would have been obvious to one of ordinary skill in the gypsum board art at the time the invention was made to form the gypsum board of Jaffee, wherein the chopped glass fibers have an average diameter of between about 9.5 and 12.5 μm and an average fiber length ranging from 6-12 mm, as Jaffee teaches that the chopped glass fibers can have average diameters from about 9μm to about 20μm and average lengths between 0.25 inches and 1 inch, and such a teaching would have indicated to one of ordinary skill in the art that all of the chopped glass fibers can have an average diameter and an average length within the claimed ranges. Therefore, based on Applicant's arguments, such "smoothness" would naturally flow from the teachings of the prior art, absent evidence to the contrary.

Terminal Disclaimer

12. The terminal disclaimer filed on April 22, 2010, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent that might issue from Appl. No. 10/608,790, has been noted.

Conclusion

13. Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER Y. CHOI whose telephone number is (571)272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter Y Choi/
Examiner, Art Unit 1786

/Andrew T Piziali/
Primary Examiner, Art Unit 1786